



Mineral Industry Surveys

For information, contact:

John F. Papp, Chromium Commodity Specialist
U.S. Geological Survey
989 National Center
Reston, VA 20192
Telephone: (703) 648-4963, Fax: (703) 648-7757
E-mail: jpapp@usgs.gov

Joseph M. Krisanda (Data)
Telephone: (703) 649-7987
Fax: (703) 648-7975

Internet: <http://minerals.usgs.gov/minerals>

CHROMIUM IN MARCH 2003

On the basis of gross weight, consumption of chromium ferroalloys and metal in March 2003 increased 19% compared with consumption in February 2003, according to the U.S. Geological Survey.

Included in this Mineral Industry Surveys are U.S. salient chromium statistics, U.S. Government stockpile inventory of chromium materials in March 2003, consumption by end use and consumer stocks of chromium ferroalloys and metal at the end of March 2003, and U.S. foreign trade data for selected chromium-containing materials in February 2003.

Update

The Defense National Stockpile Center (DNSC) reported the sale of 5,407 metric tons of ferrochromium valued at \$3.3 million in April 2003. The sale comprised 3,502 tons of high-carbon ferrochromium and 1,905 tons of low-carbon ferrochromium (Defense National Stockpile Center, 2003).

Reference Cited

Defense National Stockpile Center, 2003, Stockpile announces ferrochromium sales for April 2003: Defense National Stockpile Center, news release DNSC-03-2291, May 5, 1 p.

TABLE 1
U.S. SALIENT CHROMIUM STATISTICS¹

(Metric tons, gross weight)

	2002	2003			
	January- December ²	January	February	March	January- March ²
Production:					
Stainless steel production ³	2,180,000 ⁴	173,000	167,000	204,000	544,000 ⁴
Components of U.S. supply:					
Stainless steel scrap receipts	815,000	65,700	49,300	83,700	199,000
Stainless steel scrap consumption	1,190,000	87,300	79,900	114,000	281,000
Imports for consumption:					
Chromite ore	112,000	9,500	46,800	NA	56,300 ⁵
Ferrochromium:					
More than 4% carbon	283,000	36,900	31,400	NA	68,200 ⁵
More than 0.5%, but not more than 3% carbon	8,040	40	1,300	NA	1,340 ⁵
Not more than 0.5% carbon	25,600	2,580	1,220	NA	3,810 ⁵
Ferrochromium silicon	28,900	3,350	--	NA	3,350 ⁵
Total ferroalloy imports	345,000	42,800	33,900	NA	76,700 ⁵
Chromium metal ⁶	6,670	377	702	NA	1,080 ⁵
Stainless steel	752,000	53,000	52,000	NA	105,000 ⁵
Stainless steel scrap	81,000	4,290	5,650	NA	9,940 ⁵
Distribution of U.S. supply:					
Industry consumer, chromium ferroalloys and metal	384,000	32,800 ^r	31,500	37,500	102,000
Exports:					
Chromite ore	24,300	747	442	NA	1,190 ⁵
Chromium ferroalloys:					
High-carbon ferrochromium	13,500	285	86	NA	371 ⁵
Low-carbon ferrochromium	2,070	198	110	NA	308 ⁵
Ferrochromium silicon	281	--	--	NA	-- ⁵
Total ferroalloy exports	15,900	483	196	NA	679 ⁵
Chromium metal	498	45	27	NA	72 ⁵
Stainless steel	273,000	24,200	26,200	NA	50,400 ⁵
Stainless steel scrap	342,000	40,800	67,300	NA	108,000 ⁵
Stocks at end of period:					
Industry consumer, Chromium ferroalloys and metal	13,900	19,500	22,400	22,200	XX
Government stockpile:					
Chromite ore	204,000	204,000	204,000	176,000	XX
Chromium ferroalloys	763,000	758,000	750,000	746,000	XX
Chromium metal	7,220	7,220	7,220	7,210	XX

^rRevised. NA Not available. XX Not applicable. -- Zero.

¹Data are rounded to no more than three significant digits; may not add to totals shown.

²May include revised data.

³Data on stainless steel production reported by American Iron and Steel Institute; monthly, quarterly, and year-to-date production of stainless and heat-resisting raw steel.

⁴Includes revised data which is not broken out by specific month.

⁵Includes January through February data, March data not available.

⁶Includes waste and scrap and other.

TABLE 2
U.S. REPORTED CONSUMPTION AND STOCKS OF CHROMIUM PRODUCTS IN 2003¹

(Metric tons, gross weight unless otherwise noted)

	February	March	January- March ²
Consumption by end use:			
Alloy uses:			
Iron alloys:			
Steel:			
Carbon steel	262 ^r	285	867
High-strength low-alloy steel	522 ^r	541	1,590
Stainless and heat-resisting steel	27,200	32,800	88,200
Full alloy steel	1,280 ^r	1,490	4,150
Electrical steel	W	W	W
Tool steel	503	625	1,620
Unspecified steel	W	W	W
Cast irons	W	W	W
Superalloys	641 ^r	664	2,050
Other alloys ³	101 ^r	113	321
Total	31,500	37,500	102,000
Total, chromium content	18,600	22,000	60,200
Consumption by material:			
Low-carbon ferrochromium	1,640 ^r	1,900	5,440
High-carbon ferrochromium	26,400	31,300	85,300
Ferrochromium silicon	3,010	3,900	9,780
Chromium metal	249 ^r	264	742
Chromite ore	W	W	W
Chromium-aluminum alloy	31	37	103
Other chromium materials	W	W	W
Total	31,500	37,500	102,000
Total, chromium content	18,600	22,000	60,200
Consumer stocks:			
Low-carbon ferrochromium	2,030 ^r	2,030	XX
High-carbon ferrochromium	19,100	19,200	XX
Ferrochromium silicon	1,010 ^r	778	XX
Chromium metal	148 ^r	161	XX
Chromite ore	W	W	XX
Chromium-aluminum alloy	26	25	XX
Other chromium materials	W	W	XX
Total	22,400	22,200	XX
Total, chromium content	13,600	13,500	XX

^rRevised. W Withheld to avoid disclosing company proprietary data; included in "Total." XX Not applicable.

¹Data are rounded to no more than three significant digits; may not add to totals shown.

²May include revised data.

³Includes welding and alloy hard-facing rods and materials, wear- and corrosion-resistant alloys, and aluminum, copper, magnetic, nickel, and other alloys.

TABLE 3
U.S. GOVERNMENT STOCKPILE INVENTORY OF CHROMIUM MATERIALS^{1,2}

(Metric tons)

Period	Chromite ore		Chromium ferroalloys			Chromium metal
	Chemical	Refractory	High-carbon ferro-chromium	Low-carbon ferro-chromium	Ferro-chromium silicon	
2002:						
March	192,000	111,000	558,000	239,000	6,970	7,220
April	192,000	111,000	558,000	239,000	3,100	7,220
May	192,000	111,000	558,000	239,000	3,100	7,220
June	78,300	175,000 ³	374,000	163,000	--	7,210
July	78,300	175,000	372,000	163,000	--	7,210
August	78,300	113,000	547,000 ³	235,000 ³	--	7,220 ³
September	78,300	113,000	544,000	234,000	--	7,220
October	78,300	127,000 ³	536,000	233,000	--	7,220
November	78,300	127,000	535,000	232,000	--	7,220
December	78,300	126,000	531,000	232,000	--	7,220
2003:						
January	78,300	126,000	527,000	231,000	--	7,220
February	78,300	126,000	521,000	229,000	--	7,220
March	78,300	98,000	517,000	228,000	--	7,210

-- Zero.

¹Data are rounded to no more than three significant digits.

²These Government stocks are reported by the Defense National Stockpile Center in Inventory of Stockpile Materials R-1, which reports uncommitted inventory. Uncommitted inventory is that inventory for which there is no sales contract. Committed inventory is that inventory for which there is a sales contract; however, the material has not yet been shipped. For chromium materials, the R-1 report includes chromium materials that (1) meet specifications and are held in excess of goal and (2) do not meet specifications and are held in excess of goal. The R-1 report excludes chromium materials that are committed and awaiting shipment.

³The increase resulted from the reclassification of physical inventory from committed to uncommitted. It does not result from the addition of chromium materials to the stockpile.

Source: Defense National Stockpile Center.

TABLE 4
U.S. EXPORTS OF CHROMITE ORE, CHROMIUM FERROALLOYS, AND METAL¹

Period	Chromite ore		Chromium ferroalloys ²			Chromium metal ³	
	Gross weight (metric tons)	Value (thousands)	Gross weight (metric tons)	Chromium content (metric tons)	Value (thousands)	Gross weight (metric tons)	Value (thousands)
2002:							
February	988	\$572	394	233	\$393	44	\$224
March	234	106	577	354	513	27	447
April	528	822	674	412	652	80	699
May	494	153	774	452	686	48	493
June	17,200	824	456	261	416	24	265
July	335	89	394	240	369	25	366
August	345	61	771	469	577	38	414
September	458	171	664	394	589	25	253
October	2,490	842	9,880	6,460	4,650	44	404
November	456	122	520	307	462	35	445
December	415	93	296	178	288	55	483
January-December	24,300	4,070	15,900	10,100	10,100	498	4,940
2003:							
January	747	280	483	290	472	45	365
February	442	159	196	111	230	27	150
January-February	1,190	439	679	401	701	72	516

¹Data are rounded to no more than three significant digits; may not add to totals shown.

²Includes low-, medium-, and high-carbon ferrochromium and ferrochromium silicon.

³Includes chromium metal waste and scrap.

Source: U.S. Census Bureau.

TABLE 5
U.S. IMPORTS FOR CONSUMPTION OF CHROMITE ORE, FERROCHROMIUM, AND CHROMIUM METAL¹

(Metric tons)

	2002		2003		
	December	January- December ²	January	February	January- February ²
Chromite ore:					
Not more than 40% chromic oxide:					
Gross weight	17	1,080	--	--	--
Chromic oxide content	6	301	--	--	--
More than 40% but less than 46% chromic oxide:					
Gross weight	24	10,600	129	192	321
Chromic oxide content	11	4,470	59	93	152
46% or more chromic oxide:					
Gross weight	523	100,000	9,370	46,600	56,000
Chromic oxide content	258	46,700	NA	29,100	NA
Total, all grades:					
Gross weight	564	112,000	9,500	46,800	56,300
Chromic oxide content	275	51,500	NA	29,200	NA
Ferrochromium:					
Low-carbon: ³					
Not more than 0.5%:					
Gross weight	2,480	25,600	2,580	1,220	3,810
Chromium content	1,720	17,000	1,770	847	2,610
More than 0.5% but not more than 3%:					
Gross weight	400	8,040	40	1,300	1,340
Chromium content	267	4,960	25	717	742
Total, low-carbon:					
Gross weight	2,880	33,600	2,620	2,520	5,150
Chromium content	1,990	21,900	1,790	1,560	3,350
High-carbon: ⁴					
Gross weight	51,900	283,000	36,900	31,400	68,200
Chromium content	29,800	169,000	20,700	17,300	37,900
Total, all grades:					
Gross weight	54,800	316,000	39,500	33,900	73,400
Chromium content	31,800	191,000	22,400	18,800	41,300
Chromium metal:					
Other than waste and scrap	389	6,570	372	637	1,010
Waste and scrap	2	93	5	65	70
Total, all grades	391	6,670	377	702	1,080

-- Zero.

¹Data are rounded to no more than three significant digits; may not add to totals shown.

²May include revised data.

³Ferrochromium containing not more than 3% carbon.

⁴Ferrochromium containing more than 4% carbon.

Source: U.S. Census Bureau.

TABLE 6
U.S. IMPORTS FOR CONSUMPTION OF CHROMITE ORE IN 2003, BY GRADE AND BY COUNTRY¹

Grade and country	February			January-February ²		
	Gross weight (metric tons)	Cr ₂ O ₃ (metric tons)	Value ³ (thousands)	Gross weight (metric tons)	Cr ₂ O ₃ (metric tons)	Value ³ (thousands)
More than 40% but less than 46% chromic oxide, South Africa	192	93	\$26	321	152	\$47
46% or more chromic oxide, South Africa	46,600	29,100	2,000	56,000	NA	2,580
Total	46,800	29,200	2,020	56,300	NA	2,630

NA Not available.

¹Data are rounded to no more than three significant digits; may not add to totals shown.

²May include revised data.

³Customs import value generally represents a value in the foreign country and therefore excludes U.S. import duties, freight, insurance, and other charges incurred in bringing the merchandise into the United States.

Source: U.S. Census Bureau.

TABLE 7
U.S. IMPORTS FOR CONSUMPTION OF FERROCHROMIUM IN 2003, BY GRADE AND BY COUNTRY¹

Grade and country	February			January-February ²		
	Gross weight (metric tons)	Chromium content (metric tons)	Value ³ (thousands)	Gross weight (metric tons)	Chromium content (metric tons)	Value ³ (thousands)
<u>High-carbon ferrochromium:</u> ⁴						
Kazakhstan	2,950	2,060	\$1,360	15,100	10,600	\$6,900
South Africa	18,100	8,940	5,210	42,800	21,100	12,300
Zimbabwe	10,300	6,280	3,620	10,300	6,280	3,620
Total	31,400	17,300	10,200	68,200	37,900	22,800
<u>Low-carbon ferrochromium:</u> ⁵						
More than 0.5% but not more than 3% carbon,						
South Africa	1,300	717	545	1,340	742	577
Not more than 0.5% carbon:						
China	--	--	--	20	13	22
Germany	198	140	375	218	155	415
Japan	40	28	83	143	97	289
Kazakhstan	16	11	24	364	258	319
Russia	949	655	916	3,020	2,060	2,690
Turkey	20	13	36	40	25	69
Total	1,220	847	1,430	3,810	2,610	3,800
<u>All grades:</u>						
China	--	--	--	20	13	22
Germany	198	140	375	218	155	415
Japan	40	28	83	143	97	289
Kazakhstan	2,970	2,070	1,380	15,500	10,800	7,220
Russia	949	655	916	3,020	2,060	2,690
South Africa	19,400	9,650	5,760	44,100	21,800	12,900
Turkey	20	13	36	40	25	69
Zimbabwe	10,300	6,280	3,620	10,300	6,280	3,620
Total	33,900	18,800	12,200	73,400	41,300	27,200

-- Zero.

¹Data are rounded to no more than three significant digits; may not add to totals shown.

²May include revised data.

³Customs import value generally represents a value in the foreign country and therefore excludes U.S. import duties, freight, insurance, and other charges incurred in bringing the merchandise into the United States.

⁴Ferrochromium containing more than 4% carbon.

⁵Ferrochromium containing not more than 3% carbon.

Source: U.S. Census Bureau.

TABLE 8
U.S. IMPORTS FOR CONSUMPTION OF CHROMIUM METAL IN 2003,
BY GRADE AND BY COUNTRY¹

Grade and country	February		January-February ²	
	Gross weight (metric tons)	Value ³ (thousands)	Gross weight (metric tons)	Value ³ (thousands)
Waste and scrap:				
Germany	4	\$21	9	\$166
Korea, Republic of	1	7	1	7
Russia	60	217	60	217
Total	65	244	70	390
Other than waste and scrap:				
Austria	(4)	3	(4)	3
China	77	251	183	644
France	163	1,310	236	1,820
Germany	50	213	51	244
Italy	--	--	(4)	3
Kazakhstan	--	--	37	128
Russia	220	764	260	909
Singapore	--	--	(4)	11
Spain	--	--	4	17
Switzerland	(4)	5	(4)	5
Taiwan	--	--	(4)	4
United Kingdom	126	791	238	1,600
Total	637	3,340	1,010	5,390
All grades:				
Austria	(4)	3	(4)	3
China	77	251	183	644
France	163	1,310	236	1,820
Germany	54	234	60	410
Italy	--	--	(4)	3
Kazakhstan	--	--	37	128
Korea, Republic of	1	7	1	7
Russia	280	981	320	1,130
Singapore	--	--	(4)	11
Spain	--	--	4	17
Switzerland	(4)	5	(4)	5
Taiwan	--	--	(4)	4
United Kingdom	126	791	238	1,600
Total	702	3,580	1,080	5,780

-- Zero.

¹Data are rounded to no more than three significant digits; may not add to totals shown.

²May include revised data.

³Customs import value generally represents a value in the foreign country and therefore excludes U.S. import duties, freight, insurance, and other charges incurred in bringing the merchandise into the United States.

⁴Less than 1/2 unit.

Source: U.S. Census Bureau.

TABLE 9
U.S. TRADE OF STAINLESS STEEL, BY PRODUCT, IN 2003¹

Stainless steel product	February		Gross weight (metric tons)	Value ² (thousands)
	Gross weight (metric tons)	Value ² (thousands)		
Exports:				
Ingot	426	\$3,160	803	\$4,950
Flat-rolled (width > 600 mm)	14,000	29,300	25,200	51,200
Flat-rolled (width < 600 mm)	7,540	17,400	15,700	35,900
Bars and rods in irregular coils	219	466	306	779
Other bars and rods	1,190	6,060	2,150	11,000
Wire	602	3,780	1,510	9,340
Tubes, pipes, hollow profiles	2,290	9,200	4,740	19,300
Total	26,200	69,300	50,400	133,000
Stainless steel scrap	67,300	28,500	108,000	58,400
Grand total	93,500	97,800	158,000	191,000
Imports:				
Ingot	13,700	18,700	25,000	33,600
Flat-rolled (width > 600 mm)	21,200	32,800	40,500	62,700
Flat-rolled (width < 600 mm)	3,670	10,100	7,690	21,400
Bars and rods in irregular coils	2,100	3,420	5,970	9,530
Other bars and rods	4,520	9,940	10,800	23,400
Wire	2,300	6,640	5,270	15,400
Tubes, pipes, hollow profiles	4,550	18,200	9,720	38,800
Total	52,000	99,800	105,000	205,000
Stainless steel scrap	5,650	4,110	9,940	6,990
Grand total	57,700	104,000	115,000	212,000

¹Data are rounded to no more than three significant digits; may not add to totals shown.

²Export value is free alongside ship (f.a.s.). Import value is Customs import value, which generally represents a value in the foreign country and therefore excludes U.S. import duties, freight, insurance, and other charges incurred in bringing the merchandise into the United States.

Source: U.S. Census Bureau.